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THE

TREATMENT

OF

PLACENTA PRÆVIA

BY

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PLACENTA PRÆVIA.

Mr. President and Gentlemen,—

When your Council paid me the very kind compliment of asking me to inaugurate the discussion in obstetrics, I ventured to suggest "The Treatment of Placenta Prævia" as a subject in which most of us can take part, and in which all must have an interest; for, while it is admittedly one of the most serious complications of labour, several methods of treatment have of recent years been introduced which have greatly lessened its terrible mortality, while at the same time there is by no means an unanimity among obstetricians as to what are the best means of treating the complication, and the experience of the members of this Society who have treated cases will, I trust, help us to arrive at more definite lines of treatment than at present prevail.

The placenta, I need not remind you, is said to be prævia "when it is attached to any portion of the uterus, which is subject to distention during labour" (Lusk), and has distinctive names given to it according to its relation with the internal os; thus it is said to be:—

1. *Central or complete.*—When, after dilatation of the internal os, the placenta only can be felt.

2. *Partial or incomplete.*—When, with dilated os, there is recognisable a portion of the membranes as well as a segment of the placenta.

3. *Marginal.*—When the placental border stretches down to, but not beyond, the internal os.

4. *Lateral.*—When the placenta, though attached to the spherical surface of the lower part of the uterus, does not reach the margin of the os.

To this latter class belong a great many of the cases of so-called accidental hæmorrhage.

The placenta is never attached to the cervix, a fact that was first insisted on by Professor E. T. Taylor, and is now generally admitted, since Kuhn, who investigated the subject with Karl Braun, found that in no case was the placental portion, which occupied the cervical canal, adherent to the canal walls, but that in all *post mortem* examinations the remains of the placenta prævia materna ended by a sharp border line at the os internum.

ness by means of a curved wooden stethescope, the diagnosis is only rendered positive by introducing the finger through the os, and touching the placental mass.

When the diagnosis is thus established positively, or even when we have strong presumptive evidence of its existence, how should we proceed? This is the first point to consider in the treatment of placenta prævia, and it is one which I trust the members who take part in the discussion will consider the importance of; and the question at once resolves itself into whether labour should be brought on then and there, or an endeavour made to prolong the pregnancy to its normal period. The older writers recommend the latter course, and we are told to keep the patient on a hard mattress, to apply astringents and cold to the vagina, to give cold and acidulated drinks, and exhibit opium and even ergot. But though a portion of this treatment may be all very well in not at least increasing the hæmorrhage, we must bear in mind that all this time the patient is in great and imminent danger. In spite of all these precautions, hæmorrhage may occur at any time, and must occur when labour sets in, and we cannot foresee when it may take place, or calculate in what quantity it will pour out; and it may be, and often is, so sudden and so terrible, that death occurs before assistance can be obtained, or that the patient is so exhausted that assistance, when it comes, is powerless to save life. I would impress on this Society that the horrible mortality in placenta prævia is not due so much to the impotence of our art as it is to violent hæmorrhage occurring before assistance can be obtained, or where that assistance is of a helpless do-nothing character. Why, then, should we hesitate to bring on premature labour at once when placenta prævia is diagnosed, when by means of Barnes's bags we can safely bring on labour at any time or fix the time as easily as for an ovariotomy or lithotomy, and bring a skilled assistant to help us in the operation and to share the responsibility? If this be desirable, as it is, in the case of men who make obstetrics a special study, how much more advantageous is it in the case of the immense number of practitioners who have no peculiar *penchant* for midwifery, but loathe and detest it, and merely regard its practice as one of the stern and unpleasant necessities of what we are pleased to call the noblest and most-self-sacrificing of professions. Playfair, Lusk, Barnes, and most modern writers suggest, if they do not actually advise, this active mode of procedure. But it may be objected to on the grounds that it lessens the chances of the child's life: let us see how far this holds good—Müller finds, as the result of his extensive and most important investigations, published in Stuttgart in 1877, that the hæmorrhage occurs in greatest frequency from the 28th to 36th week in complete presentation, and in the incomplete varieties most frequently after the 32nd week,

and in no instance out of 912 cases that he has collected has death occurred before the seventh month. Now, though a seven months' child has not a very great chance of living (except it be a first baby, which it is notorious does excellently well), still its chances of life are not increased by the frequent floodings that are likely to occur before its birth, which will in all probability be premature, and it appears to me stands as good or a better chance by being delivered then, than by allowing pregnancy to continue, for let us consider what is the mortality of children in placenta prævia according to different authors:—

Schwarz	75 per cent.
Hecker	67 per cent.
Barnes	64 per cent.
Müller	64 per cent. (average of 2,360 cases).
Fritsch	60 per cent.
Spiegelberg	50 per cent.
Braun	50 per cent.

Now these numbers refer mostly to the question whether the child was born with life, not whether it remained alive, which is a very different matter. For example: Behm had 78 per cent. born with life, but of these only 29 per cent. lived, so that instead of having 78 per cent. of children that lived, he had in reality only 22 per cent. Kuhn followed the fate of the children in 46 cases of placenta prævia, and found that two months after birth only two of them were alive. And Müller states a placenta prævia child has only three chances out of ten of being born alive; and as Virchow shows that nearly one out of every three children born under all circumstances in Berlin die within the first year, its remaining chances would be almost gone before even its time came for measles, whooping cough, scarlet fever, and the various other diseases that we may almost regard as its necessary trials, before it reaches a time when the value of its life may be in any way compared to that of its mother; so that as far as we can at present manage the treatment of placenta prævia the chances of saving the child need not prevent us from inducing premature labour. *Therefore I would strongly urge that premature labour be brought on as soon as we know that we are dealing with a case in which the placenta presents after the seventh month of pregnancy, and even before then should the bleedings be serious, frequent, or continuous.*

Before discussing the best means of inducing labour in these cases, let us consider some of the principal methods of treatment recommended for placenta prævia, the point being to effect delivery with as small a loss of blood as possible, and with the least risk to mother and child. The older writers, even as far back as Giffard and Portal, knew that the placenta might be implanted over the os, or (as they thought) attached to the cervix; and some of their instructions for treatment are both quaint and curious, though

scarcely instructive. We find Guillemeau and Mauriceau having very clear ideas of its existence, and recommending the rapid and forcible emptying of the uterus at all hazards—the *accouchement forcé*. Rigby has written a very clear description of it in his work on "Hæmorrhage," and appears to have been the first to have made a distinction between "unavoidable" and "accidental" hæmorrhage, and wrote that "manual extraction of fœtus by the feet is absolutely necessary to save the life of the mother in unavoidable hæmorrhage, but in accidental hæmorrhage is not required."

The first change from this method of treatment, viz., *puncture of the membranes*, is generally attributed to Puzos, but was described by Mauriceau fifty years before him, as he distinctly says: "The vessels of the uterus, which were open, become shut by the contraction of its proper substance as soon as the waters of the infant which held it extended are evacuated from it." This practice was largely followed by Ramsbotham, and in the present day is strongly recommended by such eminent authorities as Barnes and Playfair. I have found it of service in lateral presentation, but its use in the other forms is not to be relied on. In complete presentation it is difficult of accomplishment; and besides, an objection I have to it is this, if it fails, as it often does, it renders version, which may have to be fallen back upon, more difficult and dangerous; therefore I reserve it for cases of lateral presentation of the placenta where the head presents, for when the waters escape, the head presses against the placenta, and the forceps can be applied, provided the head presents, which, be it said, it frequently fails to do in cases of placenta prævia.

The next mode of treatment which we need consider is the *separation of the placenta from the uterus*, which was so ably brought before the profession in a communication laid before the Medico-Chirurgical Society of Edinburgh in 1844 by the late Sir James Simpson. He was led to adopt this practice from a consideration of eight cases in which he found that the hæmorrhage ceased on the complete expulsion by natural means of the whole placenta before the birth of the child, and finally put on record from various sources 141 cases of this occurrence, and it may interest the Society to learn that some of these cases were contributed by the late Doctors Tulloch, Greenhow, and Hardcastle, of this city, and he arrived at the following conclusions:—

1. The complete separation and expulsion of the placenta before the child in cases of unavoidable hæmorrhage is not so rare an occurrence as accoucheurs appear generally to believe.

2. It is not by any means so serious and dangerous a complication as might *a priori* be supposed.

3. In nineteen out of twenty cases in which it has happened the attendant hæmorrhage has either been at once altogether arrested or it has become so much diminished as not to be afterwards alarming.

4. The presence or absence of flooding after the complete separation of the placenta does not seem in any degree to be regulated by the duration of time intervening between the detachment of the placenta and the birth of the child.

5. In 10 out of 141 cases, or in 1 out of 14, the mother died after the complete expulsion or extraction of the placenta before the child.

6. In seven or eight out of these ten casualties the death of the mother seemed to have had no connection with the complete detachment of the placenta, or with results arising directly from it; and if we do admit the three remaining cases, which are doubtful, as leading by their occurrence to a fatal termination, they would still only constitute a mortality from the complication of three in 141, or of one in 47 cases.

7. On the other hand, under the present (1844) established rules of practice, 180 mothers died in 654 cases of placental presentations, or nearly one in three.

He first deliberately put the method in practice on the 1st of October, 1844, but the placenta had been artificially removed by others previous to Simpson, and cases are recorded as instances of malpractice by Collins, Ramsbotham, Cripps (of Liverpool), Lowenhardt, Baudelocque, &c. Ramsbotham describes a case so graphically that it is worth recording in his own words. He was summoned by a doctor to come and help him in a case he was attending, but before Ramsbotham left his house he received a second message from the doctor saying that he need not come, "as the woman was better and doing well." When on next meeting the doctor he asked what was the nature of the case, the following conversation ensued. "It was the strangest case I ever saw; it was a placental presentation with the most violent flooding, but I got it away." "Got what away," says Ramsbotham. "Why the placenta," says the doctor. "What, before the child?" asked Ramsbotham in astonishment and horror. "Yes, before the child," said the doctor, "and the flooding ceased and the woman did well, and the child soon followed the after-birth." Simpson thought the placenta was the source of the bleeding; this, however, has now been established not to be the case, as the hæmorrhage comes from the open mouths of the uterine vessels, and Barnes has drawn attention to the fact that in the majority of cases it is not necessary to separate the whole placenta, for there is a natural spontaneous arrest of hæmorrhage attained when that part of the placenta which has grown within the lower zone has been detached, provided uterine contractions

concur, for it is on these we must depend to stop the hæmorrhage; and the reason of the cessation of hæmorrhage, though not explained by Barnes, is, I believe, this—when the placenta is completely expelled, the uterus is able to contract and close the open mouths of its vessels, as it does in twins, where the first placenta is expelled before the birth of the second fœtus; but when the placenta is only slightly detached, the connecting vessels being only partially torn are kept on the stretch, and so the chief source of the hæmorrhage is from the line of juncture of the uterus and partially-detached placenta; but when the placenta is sufficiently detached to become flaccid it does not drag on the vessels, and so permits them to contract, which they readily do provided the uterus is contracting, hence it is desirable to pass in a finger and separate the placenta well round the os to permit this flaccidity to occur. The extent to which this should be done will vary in different cases, depending on various circumstances, such as position of the fœtus, amount of liquor amnii, strength of pains, &c., but it generally corresponds to the extent which the placenta would be spontaneously detached to admit the passage of the fœtal head, the largest circumference of which is about equal to a circle with a diameter of $4\frac{1}{2}$ inches; or, according to Matthews Duncan, the plane at which spontaneous detachment ceases is reached at a distance of $2\frac{1}{2}$ inches by following the curve of the lower segment, and of $1\frac{1}{2}$ inches if measured in the plane of the uterine axis.

The next treatment which we need consider is the *tampon*. Now though it is still recommended by several eminent obstetricians, including Lusk and Playfair, I would suggest that the day of the *vaginal* plug is gone — it is out of date — it is now as unscientific in principle as it was unsafe in practice; it was unreliable in controlling hæmorrhage, and was a most fertile source of septicæmia. What is required is a method which will control the bleeding and at the same time hasten labour, and nothing that I am acquainted with answers these requirements so thoroughly as Barnes's hydrostatic bags, or (as I prefer) Steele's modification of them; and Braun, after many years' experience at Vienna with the colpeurynter maintains the superiority of hydrostatic dilatation, therefore I will not take up your time by discussing the various means which have been adopted for plugging the vagina, but may remind you that should you not have time from the urgency of the case to get Barnes's bags, as once occurred to me, a very efficient cervical plug can be made by the hand, the fingers being joined together in the form of a cone.

The method of Jungbluth, which consists in *the dilatation of the cervix with sponge tents*, I see no advantage in, except that it may be required preparatory to the introduction of a small-sized bag; but I have never had occasion to have recourse to it, as in all

the cases I have seen the os has been, if not patulous, at least sufficiently dilatable to admit the finger, with a little patience, to be gently introduced and thus prepare the way for a bag.

The local application of *styptics* I will not stay to discuss—I have no faith in them—but will pass on to the consideration of *version*—(1) external version, both hands being employed on the abdomen; (2) internal version, by means of a hand being introduced into the uterus; and (3) the combined method (the method of Braxton Hicks), when a finger or two are introduced through the os and the other hand is used on the abdomen. Now nearly all the older writers practised version, and this they generally did by forcing the hand through the cervix, seizing a foot, turning the child, and pulling it through the os as rapidly as possible, utterly regardless of the condition of the cervix and os; in fact the quicker they did it the more they prided themselves on their skill. Well, this was a most disastrous proceeding, and to its continuance may be traced many of the deaths still occurring. The cervix, from its congested and increased vascular condition, is more likely to be torn than in ordinary labour, and a laceration is then more dangerous, not only from the immediate production of hæmorrhage, but from its increased liability to septic absorption. Most writers strongly condemn it, and justly so. External version, as first performed by Wigand, has not been much used; it is in most cases difficult to perform, and having been performed, it would still be useless until the fingers were introduced and a leg brought down. Internal version is often of very great benefit when it is judiciously performed with a fully dilated or easily dilatable os, and has been very extensively employed, and still continues to be so, as the bi-polar method, for some reason or other, has never been taken to kindly in England, the country of its invention. It seems to have been performed by Hamilton in 1822, by Lee in 1843; but was first brought prominently before the profession by Braxton Hicks, in a communication to the *Lancet*, on July 14th and 24th, 1860, in which the treatment of five cases of placenta prævia by this method was described; and the subject was more fully treated in a most able manner in a paper read by him at a meeting of the Obstetrical Society, on the 4th November, 1863. Dr. Barnes (the president, in the chair) spoke in very flattering terms of its advantages, as did also Baker Brown, Hall Davis, Greenhalgh, Graily Hewitt, and others.

It has not even up to now taken much hold in America, as King, in the collection of cases occurring in the State of Indiana, found that it was only practised 1 in 240 cases, and the treatment recommended by Lusk in his recent text-book differs essentially from the method of Hicks, as he says: "When the cervix has been sufficiently stretched by dilators to admit of delivery, the finger

should be introduced, the placenta should be separated, the membranes ruptured, and an extremity seized without passing the entire hand into the uterus. Extraction should follow—the pressure of the fœtus prevents any considerable amount of hæmorrhage."

In France, it does not seem to have taken hold even at the present day, thus Wasseige (1881) only mentions it in remarking that "its application is limited to rare cases, for should it not succeed, we would render ordinary version more difficult—the membranes being ruptured by the attempt," and Charpentier, in his new and extensive text-book, published in 1882, does not even mention it in connection with the treatment of placenta prævia.

It was at first rejected in Germany, more especially by Heeker, Spiegelberg, and Müller; but it slowly made its way, and is now warmly advocated by several, including Hoffmeier, who was the first to give it an extensive trial in hospital practice, then by Behm, Schmidt, Lomer, Kuhn, Fasbender, Martin, and Kaltenbach. And as Lomer has recently gone so fully into the question in the paper before alluded to, I cannot do better than describe in his own words the method as practised in Schrœder's Clinic in the University Hospital for Women in Berlin. "Turn by the bi-manual method as soon as possible, pull down the leg and tampon with it, and with the breech of the child the ruptured vessels of the placenta. Do not extract the child then; let it come by itself, or at least only assist its natural expulsion by gentle and rare tractions. Do away with plug as much as possible; it is a dangerous thing, for it favours infection, and valuable time is lost with its application. Do not wait in order to perform turning until the cervix and os are sufficiently dilated to allow the hand to pass. Turn as soon as you can pass one or two fingers through the cervix. It is unnecessary to force your fingers through the cervix for this. Introduce the whole hand into the vagina, pass one or two fingers through the cervix, rupture the membranes, and turn by Braxton Hicks's bi-manual method. Use chloroform freely in performing these manipulations. If the placenta is in your way try to rupture the membranes at its margin; but if this is not feasible, do not lose time—perforate the placenta with your finger, get hold of a leg as soon as possible and pull it down. This may cause a very strong hæmorrhage at the moment. Hofmeier and Behm have already remarked this, and I can fully confirm their observation. This is the only critical moment in the operation. The operator must be prepared for it, and must not lose his presence of mind when his hand is suddenly covered with a stream of blood. He must remember that the most alarming hæmorrhage will cease with positive certainty when he pulls down the leg of the child. Up to this moment the treatment is an energetic, active one. Experience shows that flooding now ceases. The next part of the treatment

is of an expectant nature. A quick extraction made now would cause rupture of the cervix, and fatal post partum hæmorrhage. Wait, therefore; give the patient time to rally her powers; wait until pain sets in, and then assist nature by exerting slow and gentle tractions; if the child is in danger during this time, let it run its risk, let it die if necessary, but do not endanger the mother by quick extraction. Cervical laceration is always a dangerous thing—it is particularly dangerous in placenta prævia, on account of the great vascularity of the tissue of the cervix and its liability to rupture. Atony of the uterus is also a disagreeable complication, especially in cases of placenta prævia, when there generally is not too much blood to lose; but these dangers may be got rid of by an expectant treatment. After turning, pains generally set in quickly, the cervix distends rapidly, and the child is born generally between one and two-and-a-half hours after turning."

He then discusses the method under five heads:—

1. How should we treat cases of flooding occurring during pregnancy? and states that his cases have not proved to him the necessity of bringing on premature labour, but goes on to say, "when strong hæmorrhage occurred in pregancy, we use the tampon and examine a few hours later, to see whether the cervix was sufficiently dilated to allow one finger to be passed, and to permit of turning to be performed." In this sense, he confesses, his method may be counted perhaps among the proceedings having the object to induce premature labour in placenta prævia, and further says "operators who have lately followed this plan have had very good results," paying me the compliment of quoting me as an exponent of it, saying that my cases "show that the adoption of active measures early is the right thing for placenta prævia."

2. Is bi-manual turning an easy operation? To which he answers in the affirmative—in which all who have practised the method frequently will concur—and recommends chloroform to be freely given in all cases.

3. Can we rely on hæmorrhage ceasing after turning? Replying, that notwithstanding all views to the contrary, that it is a matter of fact that hæmorrhage does cease.

4. How long must we wait for the child to be born by natural powers? That delivery takes place in from one to two-and-a-half hours. Behm generally allows the children to be born quite spontaneously, and had to wait from half-an-hour to four hours, and in one case for eleven hours.

5. Ought the method of rupturing the membranes in head presentation be abandoned altogether? He says circumstances must decide. When the placenta is only felt marginally, when the head has entered the pelvis, when pains are strong and hæmorrhage not very profuse, then rupture of the membranes seems to be the right

thing. It must not, however, he says, be forgotten, that in adopting this method of treatment the chances for effecting an easy version are lost; and as sometimes hæmorrhage does not cease after rupture of the membranes, turning has then to be resorted to under unfavourable circumstances, and approvingly quotes King, who says "that the evacuation of the liquor amnii, if performed before the os is dilated, is an unreliable agent, and ought not to be classed as a means for controlling the hæmorrhage."

I have thus quoted very fully from Lomer, as he represents one of the greatest midwifery schools in the world; and the treatment he recommends has had such extraordinary success in Germany that I am anxious that it should be placed before the Society in the words of one who has had a large experience of it, more especially as I have never had recourse to it, the results of the methods which I practise having hitherto been so good that I am loath to leave them, and I am strongly inclined to believe they more fully prevent hæmorrhage and give the child a better chance.

The practice which I follow consists, not in a single method for stopping hæmorrhage, but in several, and it is this: In the first place in every one of my own patients, or in those that I am consulted about, when hæmorrhage occurs after the seventh month, when it is clearly not from the cervix or os, and when there is presumptive evidence that it is from placenta prævia, I advise premature labour to be induced, or before that period of pregnancy when the hæmorrhage is severe, continuous, or frequently recurring. In cases that permit of a little delay from the symptoms not being very urgent, I appoint a time when I can give a few hours continuous attendance—two hours is generally sufficient; as once you commence to induce labour, I consider it necessary to remain with the patient until delivery is accomplished; and when the case does not command instant action one can fix his own time and can have what assistance he requires.

I find having an assistant a great advantage, and by thus arranging a definite time practitioners can secure the services of a specialist or fellow practitioner to help them and share the responsibility. On examination, if the cervix will permit it, I introduce my finger, separate the placenta all round, as far as my finger will reach, and then put in a Barnes's bag; and if not, I gently and slowly insinuate my finger through the os, which I have always found easy of accomplishment, never having had recourse to the preliminary introduction of a tent, though in inducing premature labour for other causes I have frequently had to introduce tupulo tents, having thus dilated the cervix with my finger, I separate the placenta freely around the internal os, and at once introduce a Barnes's bag. I slowly fill it with

water—and here let me give a practical hint on the use of hydrostatic bags, which I do not remember to have seen mentioned in any of the text books: When the bag is well through the cervix it is very difficult to say how full it is, and by continuing the injection it may very easily be burst, as once happened to myself, and has, I know, happened to many others; so to avoid this it is desirable to ascertain and remember how many syringefuls each bag requires before being fully dilated, and then to carefully inject only that number. Having thus filled the bag, I wait patiently until the os is well dilated around it, and, before introducing another one, separate the placenta further should the hæmorrhage continue, which it does not provided the placenta has been sufficiently separated at first. After the bag has been introduced for some time the pains come on fairly well, though as a rule they are not very strong.

I thus proceed until the os is fully dilated, when I give ergot freely and decide what is the most suitable course to follow. If the placenta is lateral or marginal, and the pains fairly strong, I rupture the membranes and leave the case to nature; or if the head is well into the pelvis, I may apply the forceps; but in the great majority of cases I perform version, preferably by the combined method, and deliver the child as quickly as is consistent with safety to the mother. Bearing in mind that the os is now fully dilated, this practice is essentially different from the old *accouchement forcé*.

If I may offer a suggestion as to the course to be followed in the discussion, it is this—

1st. How are cases of flooding from placenta prævia to be treated during pregnancy?

2nd. Is labour to be induced—if so, when and how; if not—what treatment should be followed?

3rd. What is the best method of conducting the labour so as to stop the hæmorrhage and give the best chance to the mother and child?

This latter question is one which is preeminently deserving of the attention of the Society, as in all the methods I have discussed the mortality to the children is very great.

In conclusion, sir, I beg to thank you and the members for the patience and attention with which you have followed my rather lengthened remarks, and I have much pleasure in presenting to the Society a complete list, drawn up in tabular form, giving particulars of all the cases of placenta prævia I have seen, 23 cases without a single maternal death.

Number of Case.	Patient's Age.	Number of Pregnancy.	Usual Medical Attendant.	When first seen.		Month of Pregnancy when Hæmorrhage first occurred.	Amount and Duration of Hæmorrhage before Treatment.	State of Os when first seen.	Presentation of		Treatment.	Result to		Date.
				Month of Pregnancy.	Condition.				Placenta.	Fetus.		Mother.	Child.	
1	27	3rd	Midwife	6½	Very faint	6½	Very severe for three hours.	Closely contracted	Marginal	Head ..	Dilatation of os; separation of placenta; version.	Recovered	Dead ..	Dec. 4, 1877.
2	29	4th	Dr. G. Welford..	8½	Extreme collapse; convulsions from loss of blood.	8	Enormous loss after labour commenced; had three floodings previously.	Fully dilated; in labour	Complete	,,	Hand passed by side of placenta; foot immediately seized; version.	,,	,,	Mar. 12. 1878.
3	35	6th	Dr. Berwick ...	5	Pale, and very faint	5	Severe flooding for two hours.	Fully dilated; in labour	,,	,,	Labour-pains very violent, which rapidly expelled both placenta and fœtus naturally.	,,	,,	Sep. 14, 1878.
*4	32	7th	Midwife	Last	Completely blanched, and in an extreme state of collapse.	7½	Great loss on commencement of labour; two previous floodings.	Size of florin; easily dilatable.	,,	,,	Barnes's bags; separation of placenta; version.	,,	,,	Mar. 5, 1879.
5	37	11th	Dr. Maling	Last	Great faintness	7½	Great loss intermittingly for three days while labour was going on; four previous floodings.	Dilated fully; in labour	,,	,,	Hand passed by side of placenta; foot seized; version.	,,	,,	Sep. 28, 1879.
6	42	1st	Dr. Morgan	Last	Fairly good.....	8½	Slight hæmorrhage on commencement of labour; two previous floodings.	Size of shilling; very rigid and unyielding; in labour.	,,	,,	Barnes's bags; dilatation very slow; separation of placenta; Tarnier's forceps first, then Barnes's forceps.	,,	,,	Mar. 25, 1881.
7	26	3rd	Dr. Morgan....	Last	Very good	8	Slight hæmorrhage on commencement of labour; two previous floodings.	Size of half-a-crown; dilatable; in labour.	Partial	,,	Barnes's bags; dilatation rapid; separation of placenta; pains strong, and labour quickly completed naturally.	,,	Alive ..	Mar. 31, 1881.
8	34	5th	Dr. Murphy....	Last	Very good	Last	A sudden and severe gush of hæmorrhage occurred an hour before I saw her.	Size of shilling, and dilatable.	Complete	,,	Barnes's bags; separation of placenta; forceps.	,,	Dead ..	June 21, 1882.
†9	32	7th	Dr. Murphy....	Last	Very good	,,	Severe on commencement of labour; no previous flooding.	Size of shilling; rather rigid.	Partial	,,	Digital dilatation; separation of placenta; version.	,,	Alive ..	Aug. 1, 1882.
10	37	14th	Dr. Maling	6	Very faint, and blanched.	4½	Hæmorrhage had been going on, more or less severely, for previous six weeks.	Would admit tip of finger; ratber rigid.	Complete	Breech	Barnes's bags; separation of placenta; all hæmorrhage ceased; foot brought down; fœtus dead and putrid; traction.	,,	Dead ..	Oct. 20, 1882.
11	32	4th	Dr. Bernard ..	8½	Very good	8	Once, a fortnight before; no recurrence.	Would admit tip of finger; dilatable.	,,	Head ..	Labour induced by digital dilatation; afterwards Barnes's bags; separation of placenta; version.	,,	Alive ..	Nov. 1, 1882.
12	43	7th	Dr. Bernard....	7	Blanched	6½	More or less continuous for a fortnight.	Would scarely admit tip of finger; dilatable.	,,	,,	Same as last case; version.	,,	,,	Feb. 6, 1883.
13	37	7th	Midwife	Last	Fairly good.....	8	Slight; one previous flooding.	Size of shilling; dilatable.	Marginal	Breech	Barnes's bags; separation of placenta; version.	,,	,,	Mar. 2, 1883.
14	20	1st	Dr. Murphy....	5	Very faint	5	Very severe for four hours.	Size of shilling; dilatable.	Complete	Shoulder	Digital dilatation; separation of placenta; version.	,,	Dead ..	Mar. 8, 1883.
15	40	9th	Dr. Beattie	8	Very faint	7	Very severe for two hours; one previous flooding.	Size of half-a-crown; dilatable; in labour.	,,	Head ..	Barnes's bags; separation of placenta, which was pushed to one side; forceps.	,,	,,	Apr. 26, 1883.
16	32	4th	Dr. Fell	8	Good	8	Slight for two hours....	Would admit tip of finger.	Lat'rl	,,	Barnes's bags; rupture of membranes.	,,	Alive ..	Aug. 30, 1883.
‡17	36	5th	Dr. Beattie	8½	Blanched and very faint.	8	Three previous floodings.	Would admit finger.....	Complete	,,	Barnes's bags; separation of placenta; version.	,,	,,	Sep. 23, 1883.
18	40	7th	Dr. Bernard....	8	Very much blanched.	7	Several previous floodings.	Would admit tip of finger.	,,	,,	Barnes's bags; separation of placenta; version.	,,	,,	Jan. 20, 1884.
19	35	6th	Dr. Morgan....	8½	Very faint	8	One slight previous flooding.	Would admit tip of finger.	,,	,,	Barnes's bags; separation of placenta; version.	,,	,,	Mar. 1, 1884.
20	40	5th	Dr. Bernard....	8½	Faint	8	One previous flooding ..	Would admit goose quill	,,	,,	Os dilated with finger; Barnes's bags; separation of placenta; version.	,,	Dead ..	Apr. 11, 1884.
21	41	12th	Dr. Beattie	8	Blanched and almost pulseless.	7½	Several severe floodings..	Size of shilling.....	,,	,,	Separation of placenta; Barnes's bags: version.	,,	Dead and putrid	May 20, 1884.
22	34	5th	Prof. Brady....	6	Very good	5	Two slight bleedings ...	Fully dilated.....	Partial	,,	Placenta expelled naturally.	,,	Dead ..	June 25, 1884.
23	28	4th	Dr. Dixon.....	7	Very good	7	One slight bleeding	Would admit tip of finger.	Lat'rl	,,	Barnes's bags; rupture of membranes.	,,	Alive ..	Dec. 28, 1884.

* Phlegmasia alba dolens. † Narrow conjugate diameter; version performed in all labours; only one other child born alive. ‡ Had placenta prævia in her last labour.

In all the cases, as soon as the placenta was separated sufficiently, the hæmorrhage ceased completely, or became so very trivial as to be of no consequence.

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